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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/742,301	12/18/2003	Glenn H. McGall	3402.1	5674

22886 7590 03/30/2007
AFFYMETRIX, INC
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SANTA CLARA, CA 95051

EXAMINER

WILDER, CYNTHIA B

ART UNIT	PAPER NUMBER
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1637

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/742,301

Applicant(s)

MCGALL, GLENN H.

Examiner

Cynthia B. Wilder, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's amendment filed 12/28/2006 is acknowledged and has been entered. Claims 1, 8, 9 and 10 have been amended. Claims 11-15 have been canceled. Claims 1-10 are pending. All of the arguments have been thoroughly reviewed and considered, but are deemed moot in view of the new grounds of rejections necessitated by Applicant's amendment of the claims. Any rejection not reiterated in this action has been withdrawn as being obviated by the amendment of the claims.

This action is made FINAL.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Previous Rejection

3. The claim rejection under 35 USC 112 second paragraph is withdrawn in view of Applicant's amendment of the claims. The prior art rejection under 35 USC 102(b) as being anticipated by Huang et al is withdrawn in view of Applicant's amendment. The prior art rejection under 35 USC 102(b) as being anticipated by Brenner et al is withdrawn in view of Applicant's amendment. The prior art rejection under 35 USC 103(a) as being obvious over Huang et al in view of Eleuteri et al is withdrawn in view of Applicant's amendment of the claims.

New Ground(s) of Rejections

THE NEW GROUNDS OF REJECTIONS WERE NECESSITATED BY

APPLICANT AMENDMENT OF THE CLAIMS:

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al (US 2001/0044530, citation made of record in prior Office Action) {Huang '530, *herein*} in view of Huang (2002/0136978, publication date 09/26/2002) {Huang '978, *herein*}. Regarding claim 1, Huang et al teach a method for preparing a high density oligonucleotide array on a solid support, said method comprising the following steps: (a) preparing a solid support having a surface comprising functional groups; (b) attaching an activated nucleotide to said functional group in the presence of an activator; (c) repeating said step of attaching an activator nucleotide to form an oligonucleotide array having at least 100 different oligonucleotides/cm² (paragraphs 006-007, 0015, 0018, 0028, 0029, 0046, 0053-0062).

Huang '530 differs from the instant invention in that the Patent does not teach wherein the activator comprises 4, 5 dicyanoimidazole.

Huang '978 teaches a method for preparing a high-density oligonucleotide array on a solid support, said method comprising the following steps: providing a solid support having a surface comprising functional groups; attaching an activated nucleotide to said functional group in the presence of an activator aid activator comprising 4,5 dicyanoimidazole (0007, 0009-0010, 0015, 0028, 0021, 0023, 0026,

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0055 0075 and 0185-0188). Huang '978 teaches that such activator is capable of dissolving a transferred dry compound; catalyze the coupling of the reactive group of a protected chemical compound to an immobilized group on a target substrate (0026). Huang '978 further teaches that such compounds as 4, 5 dicyanoimidazole are exemplary for triggering the coupling of a first functional group to a second functional group (0055).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to have been motivated to utilize the activator compound 4, 5 dicyanoimidazole in the method for preparing a high density oligonucleotide array of Huang '530 for the advantages taught by Huang '978 that 4, 5 dicyanoimidazole is exemplary for triggering the coupling of a first functional group to a second functional group (0055).

Regarding claims 2-5, Huang et al teach a method for preparing a high density oligonucleotide array according to claim 1, wherein said array has at least 500, or at least 1000 or at least 5000 or at least 10,000 different oligonucleotides/cm² (0062).

Regarding claim 6, Huang et al teach a method according to claim 1, wherein said activated nucleotide is a phosphoramidite (0006).

Regarding claim 7, Huang et al teach a method according to claim 6, wherein said phosphoramidite is located at the 3' hydroxyl group of a nucleotide (006 and 0048).

Regarding claim 8, Huang et al teach a method according to claim 6, wherein said phosphoramidite further comprises a photo-protecting group (007 and 0050).

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Regarding claims 9 and 10, Huang et al teach a method according to claim 8, wherein said photo protecting group is selected from the group consisting of nitroveratryloxycarbonyl (NVOC) or alpha-methyl-nitropiperonyloxycarbonyl (MeNPOC) (0050).

Conclusion

5. No claims are allowed. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

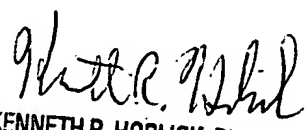
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia B. Wilder, Ph.D. whose telephone number is (571) 272-0791. The examiner can normally be reached on a flexible schedule.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cynthia B. Wilder, Ph.D.
Patent Examiner
Art Unit 1637


KENNETH R. HORLICK, PH.D.
PRIMARY EXAMINER
3/26/07